

CLAIMS :

1. A display device comprising a display module which determines a plurality of n (n is an integer equal to
5 or more than 2) pieces of pixels as belonging to one block unit, selects the plurality of pixels in each block unit at the same time and displays a picture image by adding one or a plurality of specific patterns each having different spatial frequencies of
10 each block unit; a display control unit which controls the display module; a picture image signal generation unit which generates picture image signals; and a computing circuit which generates the specific patterns each having different spatial frequencies
15 while weighting the same based on the picture image signals for every block unit.

2. A display device according to claim 1, wherein the computing circuit is a means for generating n pieces
20 of specific patterns each having different spatial frequencies which are weighted based on the picture image signals for every block unit, and the display module is a means for displaying a picture image by adding N_p (which is an integer smaller than n) pieces
25 of the specific patterns.

3. A display device according to claim 2, further

comprising a compression rate regulation unit which modifies the number of pieces N_p of the specific patterns to be applied.

5 4. A display device according to claim 2, further comprising a high compression rate computing circuit which modifies the number of the specific patterns to be added for every block unit.

10 5. A display device according to claim 1, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines connected to the signal driver; scan lines connected
15 to the scan driver; and opposing signal lines connected to the opposing signal driver; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode is connected to one of the signal lines via the switch
20 element, the opposing signal electrode is connected to one of the opposing signal lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a second potential is applied to the opposing signal
25 electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials

for the same block unit concerned and one of the common opposing signal lines is connected to the opposing signal electrodes provided for the pixels on the same line.

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6. A display device according to claim 2, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines
10 connected to the signal driver; scan lines connected to the scan driver; and opposing signal lines connected to the opposing signal driver; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode
15 is connected to one of the signal lines via the switch element, the opposing signal electrode is connected to one of the opposing signal lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a
20 second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of the
25 common opposing signal lines is connected to the opposing signal electrodes provided for the pixels on the same line.

7. A display device according to claim 3, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines
5 connected to the signal driver; scan lines connected to the scan driver; and opposing signal lines connected to the opposing signal driver; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode
10 is connected to one of the signal lines via the switch element, the opposing signal electrode is connected to one of the opposing signal lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a
15 second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of the
20 common opposing signal lines is connected to the opposing signal electrodes provided for the pixels on the same line.

8. A display device according to claim 4, wherein the
25 display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines

connected to the signal driver; scan lines connected to the scan driver; and opposing signal lines connected to the opposing signal driver; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode is connected to one of the signal lines via the switch element, the opposing signal electrode is connected to one of the opposing signal lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of the common opposing signal lines is connected to the opposing signal electrodes provided for the pixels on the same line.

9. A display device according to claim 2, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines connected to the signal driver; scan lines connected to the scan driver; opposing signal common lines connected to the opposing signal driver and opposing signal lines connected to the opposing signal common

lines; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode is connected to one of the signal lines via the switch element, the opposing signal electrode is connected to one of the opposing signal lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of different opposing signal lines is connected to the opposing signal electrodes provided for the pixels included in a different block unit.

10. A display device according to claim 3, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines connected to the signal driver; scan lines connected to the scan driver; opposing signal common lines connected to the opposing signal driver and opposing signal lines connected to the opposing signal common lines; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the

signal electrode is connected to one of the signal lines via the switch element, the opposing signal electrode is connected to one of the opposing signal lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of different opposing signal lines is connected to the opposing signal electrodes provided for the pixels included in a different block unit.

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11. A display device according to claim 4, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines connected to the signal driver; scan lines connected to the scan driver; opposing signal common lines connected to the opposing signal driver and opposing signal lines connected to the opposing signal common lines; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode is connected to one of the signal lines via the switch element, the opposing signal

electrode is connected to one of the opposing signal lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of different opposing signal lines is connected to the opposing signal electrodes provided for the pixels included in a different block unit.

12. A display device according to claim 2, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines connected to the signal driver; scan lines connected to the scan driver; opposing signal common lines connected to the opposing signal driver and opposing signal lines connected to the opposing signal common lines; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode is connected to one of the signal lines via the switch element, the opposing signal electrode is connected to one of the opposing signal lines, a first potential is applied to the signal

electrodes provided for the pixels on a same line included in a same block unit, a second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of different opposing signal lines is connected to the opposing signal electrodes provided for the pixels included in a different block unit, and respective different opposing signal lines are connected to the opposing signal electrodes provided for the pixels on different lines included in the same block unit.

13. A display device according to claim 3, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines connected to the signal driver; scan lines connected to the scan driver; opposing signal common lines connected to the opposing signal driver and opposing signal lines connected to the opposing signal common lines; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode is connected to one of the signal lines via the switch element, the opposing signal electrode is connected to one of the opposing signal

lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of different opposing signal lines is connected to the opposing signal electrodes provided for the pixels included in a different block unit, and respective different opposing signal lines are connected to the opposing signal electrodes provided for the pixels on different lines included in the same block unit.

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14. A display device according to claim 4, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and opposing signal driver; signal lines connected to the signal driver; scan lines connected to the scan driver; opposing signal common lines connected to the opposing signal driver and opposing signal lines connected to the opposing signal common lines; each of the pixels includes a signal electrode, opposing signal electrode and a switch element, the signal electrode is connected to one of the signal lines via the switch element, the opposing signal

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electrode is connected to one of the opposing signal lines, a first potential is applied to the signal electrodes provided for the pixels on a same line included in a same block unit, a second potential is applied to the opposing signal electrodes provided for the pixels on a same row included in the same block unit, a certain specific pattern is formed by the first and second potentials for the same block unit concerned and one of different opposing signal lines is connected to the opposing signal electrodes provided for the pixels included in a different block unit, and respective different opposing signal lines are connected to the opposing signal electrodes provided for the pixels on different lines included in the same block unit.

15. A display device according to one of claims 1 through 14, wherein the number of pixels in line direction in a block unit is larger than the number of pixels in row direction in the block unit.

16. A display device according to one of claims 1 through 14, wherein a combination of a plurality of pixels which constitute a block unit is varied.

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17. A display device according to one of claims 1 through 14, wherein the display module is a projection

type display, and the projection type display includes a projection pattern display source which displays the specific patterns and a pattern display element, and the pattern display element includes a pair of
5 substrates on which a transparent electrode is formed, a photo conductive layer formed on the transparent electrode and an LC layer sandwiched by the pair of substrates.

10 18. A display device according to one of claims 1 through 14, wherein the display module is constituted as a means for displaying picture images by sequentially adding the specific patterns.

15 19. A display device according to one of claims 1 through 14, wherein the display module is a means for displaying picture images while computing the specific patterns in the respective pixels and adding the same therein.

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20. A display device according to claim 19, wherein the display module includes a panel in which the pixels are arranged in a matrix shape, a signal driver, a scan driver and a common electrode driver;
25 signal lines connected to the signal driver; scan lines connected to the scan driver; and common electrode lines connected to the common electrode

driver, each of the pixels is provided with an adder-subtractor for adding the specific patterns, and the signal lines of which number is equal to the number N_p of specific patterns to be added are connected to the
5 adder-subtractor.

21. A display device according to claim 20, wherein the panel is an LC panel provided with an LC for the pixels, each of the pixels is provided with
10 capacitance elements of more than N_p pieces corresponding to the number of the specific patterns to be added which hold signals sent via the concerned signal lines, and means for coupling the capacitance element concerned and the capacitance of the LC.

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22. A display device according to one of claims 1 through 14, wherein each circuit which constitutes each pixel includes a sample hold means for digital signal and another sample hold means for analogue
20 signals.

23. A display device according to claim 22, wherein the signal held in the sample hold means for analogue signals is rewritten depending on the signal held in
25 the sample hold means for digital signals to provide a same signal for the pixels included in a same block unit.

24. A display device according to one of claims 1 through 14, wherein the picture image signal generation unit includes the computing circuit.

5 25. A display device according to one of claims 1 through 14, wherein the display control unit includes the computing circuit.

10 26. A display device according to one of claims 1 through 14, wherein the display module includes the computing circuit.

15 27. A display device according to one of claims 1 through 14, wherein the display module is an LC display module.